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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KO, TONY

ART UNIT PAPER NUMBER

2878

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/733,384

Applicant(s)

SUZUKI, HIRONOBU

Examiner

Tony Ko

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/12/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7, drawn to a solid-state image pickup device, classified in class 250, subclass 208.1.
 - II. Claims 8-15, drawn to method of manufacturing a solid state image pickup device, classified in class 438, subclass 60.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the heat treatment process in claim 8 could be replaced by etching process.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Marc Weiner on 3/29/2005 a provisional election was made with traverse to prosecute the invention of solid state image pickup device, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-15 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the "layers" in line 15 lacks antecedent basis. Line 10 of claim 1 only refers to "a first electrode layer". Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5 and 7 as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa (U.S. Patent 6,188,119).
3. Regarding claim 1, Ogawa discloses (Figs. 4 and 7b) a solid-state image pickup device comprising: a photoelectric conversion section (21) formed on the surface of a semiconductor substrate (1); and a charge transfer section (8, 10) having a charge transfer electrode for transferring electric charges produced by the photoelectric conversion section, wherein the charge transfer electrode of the charge transfer section comprises: a first electrode layer (8) comprising a silicon conductive film formed on a gate oxide film (9) formed on the surface of the semiconductor substrate; a second

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electrode layer (10) comprising a silicon conductive film (9) formed on a gate oxide film between said first electrode layers; a sidewall (11) dielectric film formed on sidewalls of said first and second electrode layers; and a metal silicide film (15) formed on the surfaces of said first and second electrode layers exposed from said sidewall dielectric film. Ogawa also discloses the second electrode layer is formed so as to sit astride and run on said first electrode layer via an interelectrode dielectric film from said gate oxide film. Ogawa also discloses the metal silicide film is titanium silicide (Col 5, Lines 57-59). Ogawa also discloses the metal silicide film is at least one of nickel silicide, palladium silicide, platinum silicide and tantalum silicide (Lines 57-59).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa.

6. Regarding claim 3, Ogawa discloses the invention set forth above, Ogawa does not disclose the silicon conductive film is a doped polycrystalline silicon film. It is well known to use polycrystalline silicon film. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use polycrystalline silicon film to create the electric field with an interface between two different semiconductor materials.

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7. Regarding claim 4, Ogawa discloses the invention set forth above, Ogawa does not the use of amorphous silicon film. It is well known to use amorphous silicon film. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use amorphous silicon film to conduct charges in the device.

8. Regarding claim 6, Ogawa discloses the invention set forth above; Ogawa does not disclose the use of cobalt silicide. It is well known to use cobalt silicide. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use cobalt silicide to contacting and to lower series resistance.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TKO



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